ALADWAA Gem

2026

SCIENCE

نماذج اختبارات الأضواء

لشهـــر مارس

الصف 1 الإعدادى

الفصل الدراسى الثانى

موقع الدكتور محمد رزق معلم الكيمياء التعليمي D.M.RAZK

1- A) Complete the following sentences:

1. The only metal that exists in a liquid state at room temperature is ..... .
2. Acids react with alkalis forming ..... and ..... .

B) What happens ...?

1. To the strength of the metallic bond when the number of valence electrons of a metallic element decrease.

..... .

2. When dissolving magnesium hydroxide $Mg(OH)_2$ in water.

..... .

3. To an object when the force exerted acts in the same direction as the object's motion.

..... .

2- A) Give a reason for:

1. Milk of magnesia is used as a temporary treatment for gastric hyperacidity.

..... .

2. The litmus strips are not used to differentiate between a strong acid and a weak acid.

..... .

B) Put (✓) or (✗):

1. The name of H_2SO_3 acid is hydrochloric acid. ( )
2. The metallic bond arises between positive metal ions and negative nonmetal ions. ( )
3. Potential energy increases with decreasing the height of object ( )

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

3- A) Compare between:

1. Metals and nonmetals in terms of malleability and luster.

.....

2. Sodium hydroxide solution and ammonium hydroxide solution in terms of strength and electrical conductivity.

.....

B) Answer the following questions:

1. The speed of an object is 150 m/s.

.....

2. **Write the molecular formula of the following compounds:**

a) Chlorous acid. (.....)

b) Salt composed from the cations and anions NH_4^+, PO_4^{3-}. (.....)

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D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Choose the correct answer:

1. A car travels a distance of 160 m in 8 minutes. Its speed equals ..... .

   a) 40 m/min b) 20 m/h

   c) 40 m/s d) 20 m/min

2. Which pH value represents a weak acid?

   a) 2 b) 5

   c) 7 d) 12

B) Give a reason for:

1. Aluminum ($_{13}Al$) is harder and has a higher melting point than sodium ($_{11}Na$).

   .....

   .....

2. The occurrence of muscle cramps when oxygen decreases in the human body.

   .....

3. The bronze alloy is used in jewellery and medals.

   .....

2- A) What happens when ...?

1. Nitrogen and Sulphur dioxides dissolve in atmospheric water vapor.

   .....

2. A piece of carbon is hammered.

   .....

B) Cross out the odd item:

1. $(NH_4)_2CO_3$ - $CaCO_3$ - $NaNO_3$ – AgCl. (.....)

2. NaOH – H_2SO_4 – KOH – $Ca(OH)_2$. (.....)

3. speed – height – weight – potential energy. (.....)

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

3- A) Correct the following statements:

1. The sulphite ion is similar to bicarbonate ion in the number of negative charges.

.....

2. The independent variable can be tested, which changes in response to changing the dependent variable.

.....

B) Answer the following questions:

1. **Look at the opposite figure, then answer:**

a) **What** is the name of the opposite device?

.....

b) **Mention** the type of solution in the beaker and what happens when a litmus strip is dipped in it?

.....

2. An apple of mass 200 g is on a tree branch at a height of 5 m above the ground. Calculate the potential energy of the apple. (Given that the gravitational field intensity = 10 N/kg)

.....

.....

ALNOWAM Gem

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Correct the underlined words:

1. The sulphate group and carbonate group have the same number of oxygen atoms.

(.....)

2. An element that contains 5 electrons in its outermost energy level is considered a metal. (.....)

B) Answer the following questions:

1. Compare between: basic oxides and acidic oxides (in terms of definitions and examples):

Points of comparison	Acidic oxides	Basic oxides
Definition	....	....
Example	....	....

2. How can you differentiate between oxygen gas (O_2) and ammonia gas (NH_3)

.....

.....

3. A person climbed a pole that is 30 m high above the ground surface, then descended again a distance of 21 m. Calculate the work done if the force is 20 N.

.....

.....

2- A) What happens when ...?

1. Copper sulphate salt is placed in water.

.....

2. The weight of an object doubles, and its height decreases to the half. (Regarding its potential energy)

.....

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Write the molecular formula of...:

1. Potassium nitrate. (.....)
2. Salt composed from the cations and anions Al^{3+}, SO_4^{2-}. (.....)
3. Hydrobromic acid. (.....)

3- A) Give an example of:

1. An acid secreted by the stomach. (.....)
2. A gas removes the colour of the two litmus strips. (.....)

B) Give a reason for:

1. Distilled water does not change the colour of litmus strip.

.....

2. It is not possible to drown in the dead sea.

.....

3. The weight of an object is always greater than its mass.

.....

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Choose the correct answer:

1. Sodium oxide (Na_2O) reacts with all of the following except ..... .

a) HCl b) KOH c) H_2SO_4 d) HNO_3

2. The potential energy of an object is 240 J at a height is 12 m. The weight of the object equals ..... N.

a) 10 b) 12 c) 20 d) 24

B) What happens when ...?

1. Magnesium burns in the presence of oxygen followed by the dissolution of the product in water.

.....

.....

2. Concentrated sulphuric acid is added to table sugar.

.....

3. When the moving object returns to its starting point. (Regarding the displacement)

.....

2- A) Give a reason for:

1. Graphite is used in dry cells.

.....

2. The colour of the flowers of Hydrangea plant differs according to the type of the soil.

.....

.....

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Correct the underlined words:

1. Litmus strips measure the value of any solution directly and accurately. (.....)
2. Atomic groups are mixtures, most of them are not expressed in molecular formulas. (.....)
3. Potential energy of a body depends on height and size. (.....)

3- A) Write the name of the following ...:

1. HF: .....
2. NO: .....

B) Answer the following questions:

1. **Compare between:** Nickel chloride and sodium carbonate in terms of ...:

Points of comparison	Nickel chloride	Sodium carbonate
Molecular formula	.....	.....
Their colour	.....	.....

2. **Look at the opposite figure, then answer:**

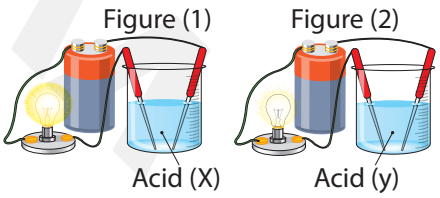
The opposite figures represent that electrical conductivity of sulphuric acid and acetic acid.

Identify the acid in each figure, with an explanation.

.....

.....

.....



3. Calculate the time taken by a moving object traveling at a speed of 80 km/h to cover a distance of 240 km.

.....

.....

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Complete the following sentences:

1. Acidic soil can be treated by adding ..... , whose molecular formula is .. ..
2. The applied force does not do work when the direction of effect is ..... the direction of motion, or when the object ..... .

B) Give a reason for:

1. The pH meter device is more accurate than universal indicator strips in determining the pH value of a solution.

.....

.....

2. Some metals are recycled.

.....

.....

.....

3. Hydrochloric acid is not an oxyacid.

.....

2- A) Answer the following questions:

1. The energy stored in the body as a result of the work done (0.5 KJ).

.....

2. **Compare between ...:**

Magnesium hydroxide and sulphuric acid (in terms of the ions produced from the dissolution of each of them in water)

Point of comparison	Magnesium hydroxide	Sulphuric acid
The ions produced from the dissolution of each of them in water	.....	.....

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Write what each of the following sentences refer to:

1. Chemical substances whose color differ in acidic medium from that in alkaline medium. (.....)
2. An ion composed of more than one atom of more than one element. (.....)
3. Rain resulting from the dissolution of acidic oxides in atmospheric water vapour. (.....)

3- A) What happens ...?

1. To The speed of an object when the time required to cover a distance is doubled.

.....

2. When Heating a piece of sulphur and adding the product to water, then placing (litmus paper) in the solution.

.....

B) Answer the following questions:

1. **What is the meant by:** Work.

.....

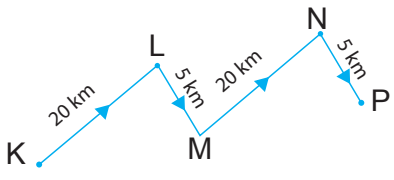
2. **Write the correct molecular formula and the name of the salt formed from the following anions:**

SO_4^{2-} , NH_4^+

.....

3. A bicycle travelled from point (K) to point (P) in half an hour.

Calculate the speed of a bicycle in m/s.



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D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

ALADWAA Gem

2026

SCIENCE

إجابات نماذج اختبارات الأضواء

لشهـــــر مارس

الصـف 1 الإعدادى

الفصل الدراسى الثانى

موقع الدكتور محمد رزق معلم الكيمياء التعليمي D.M.RAZK

1- A) Complete the following sentences:

1. The only metal that exists in a liquid state at room temperature is ..... mercury ..... .
2. Acids react with alkalis forming ..... salts ..... and ..... water ..... .

B) What happens ...?

1. To the strength of the metallic bond when the number of valence electrons of a metallic element decrease.
   - The strength of metallic bond decreases.
2. When dissolving magnesium hydroxide $Mg(OH)_2$ in water.
   - Magnesium hydroxide slightly dissolves in water and dissociates into its ions Mg^{2+} and OH^-.
3. To an object when the force exerted acts in the same direction as the object's motion.
   - The work done on the object increases.

2- A) Give a reason for:

1. Milk of magnesia is used as a temporary treatment for gastric hyperacidity.
   - To neutralize gastric hyperacidity as it contains magnesium hydroxide.
2. The litmus strips are not used to differentiate between a strong acid and a weak acid.
   - Because any acid changes the color of the blue litmus strip into red.

B) Put (✓) or (✗):

1. The name of H_2SO_3 acid is hydrochloric acid. (✗)
2. The metallic bond arises between positive metal ions and negative nonmetal ions. (✗)
3. Potential energy increases with decreasing the height of object (✗)

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

3- A) Compare between:

1. Metals and nonmetals in terms of malleability and luster.
   - Metals are malleable and have a metallic luster, while nonmetals are brittle and opaque.
2. Sodium hydroxide solution and ammonium hydroxide solution in terms of strength and electrical conductivity.
   - Sodium hydroxide solution is a strong alkali and good electrical conductor, while ammonium hydroxide solution is a weak alkali and bad electrical conductor.

B) Answer the following questions:

1. The speed of an object is 150 m/s.
   - It means that the object travels a distance of 150 meters in one second.
2. **Write the molecular formula of the following compounds:**

   a) Chlorous acid. ($HClO_2$)

   b) Salt composed from the cations and anions NH_4^+, PO_4^{3-}. ($(NH_4)_3PO_4$)

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Choose the correct answer:

1. A car travels a distance of 160 m in 8 minutes. Its speed equals ..... .

   a) 40 m/min b) 20 m/h

   c) 40 m/s d) 20 m/min

2. Which pH value represents a weak acid?

   a) 2 b) 5

   c) 7 d) 12

B) Give a reason for:

1. Aluminum ($_{13}Al$) is harder and has a higher melting point than sodium ($_{11}Na$).
   - Because the number of valence electrons in aluminum atom (3 electrons) is higher than that in sodium atom (1 electron), and as the number of valence electrons increases, the hardness and melting point of the metal increase.
2. The occurrence of muscle cramps when oxygen decreases in the human body.
   - Due to accumulation of lactic acid in the muscles of the human body.
3. The bronze alloy is used in jewellery and medals.
   - Because it is harder than copper and it does not rust.

2- A) What happens when ...?

1. Nitrogen and Sulphur dioxides dissolve in atmospheric water vapor.
   - This causes the formation of acid rains.
2. A piece of carbon is hammered.
   - The piece of carbon crumbles.

B) Cross out the odd item:

1. $(NH_4)_2CO_3$ - $CaCO_3$ - $NaNO_3$ – AgCl. ($NaNO_3$)
2. NaOH – H_2SO_4 – KOH – $Ca(OH)_2$. (H_2SO_4)
3. speed – height – weight – potential energy. (speed)

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

3- A) Correct the following statements:

1. The sulphite ion is similar to bicarbonate ion in the number of negative charges.
   - The sulphite ion is different with carbonate ion in the number of negative charges.
2. The independent variable can be tested, which changes in response to changing the dependent variable.
   - The dependent variable can be tested, which changes in response to changing the independent variable.

B) Answer the following questions:

1. **Look at the opposite figure, then answer:**

a) **What** is the name of the opposite device?
   - pH meter.

b) **Mention** the type of solution in the beaker and what happens when a litmus strip is dipped in it?
   - It is an alkaline solution. The red litmus strip turns blue.

2. An apple of mass 200 g is on a tree branch at a height of 5 m above the ground. Calculate the potential energy of the apple. (Given that the gravitational field intensity = 10 N/kg)
   - Mass (m) = 200 g = $\frac{200}{1000}$ = 0.2 kg

   $PE = m \times g \times h = 0.2 \times 10 \times 5 = 10\ J$

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Correct the underlined words:

1. The sulphate group and carbonate group have the same number of oxygen atoms.

(type and number of charge (-2))

2. An element that contains 5 electrons in its outermost energy level is considered a metal.

(less than 4)

B) Answer the following questions:

1. Compare between: basic oxides and acidic oxides (in terms of definitions and examples):

Points of comparison	Acidic oxides	Basic oxides
Definition	They are nonmetal oxides that dissolve in water, forming acids.	They are metal oxides that dissolve in water, forming alkalis.
Example	Sulphur dioxide SO_2 – Nitrogen dioxide NO_2	Magnesium oxide MgO – Sodium oxide Na_2O

2. How can you differentiate between oxygen gas (O_2) and ammonia gas (NH_3)

- By using indicator strips wetted with water.
- Oxygen gas (O_2) doesn't change the colour of the indicator, while ammonia gas (NH_3) changes the colour of red litmus strip to blue.

3. A person climbed a pole that is 30 m high above the ground surface, then descended again a distance of 21 m. Calculate the work done if the force is 20 N.

- The displacement (d) = 30 – 21 = 9 m

  $W = F \times s = 20 \times 9 = 180$ J

2- A) What happens when ...?

1. Copper sulphate salt is placed in water.

- It dissolves in water and forms a copper sulphate solution.

2. The weight of an object doubles, and its height decreases to the half. (Regarding its potential energy)

- The potential energy of the object remains constant.

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Write the molecular formula of...:

1. Potassium nitrate. (KNO_3)
2. Salt composed from the cations and anions Al^{3+}, SO_4^{2-}. ($Al_2(SO_4)_3$)
3. Hydrobromic acid. (HBr)

3- A) Give an example of:

1. An acid secreted by the stomach. (Hydrochloric acid (HCl))
2. A gas removes the colour of the two litmus strips. (Chlorine gas)

B) Give a reason for:

1. Distilled water does not change the colour of litmus strip.
   - Because water is neutral, as number of H^+ ions in it equals number of OH^- ions.
2. It is not possible to drown in the dead sea.
   - Due to the high percentage of salts found in water leads to increasing the density of this water.
3. The weight of an object is always greater than its mass.
   - Because weight is the product of multiplying the object's mass by the gravitational field intensity.

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Choose the correct answer:

1. Sodium oxide (Na_2O) reacts with all of the following except ..... .

a) HCl b) KOH c) H_2SO_4 d) HNO_3

2. The potential energy of an object is 240 J at a height is 12 m. The weight of the object equals ..... N.

a) 10 b) 12 c) 20 d) 24

B) What happens when ...?

1. Magnesium burns in the presence of oxygen followed by the dissolution of the product in water.
   - Magnesium oxide MgO is formed when it dissolves in water, it produces magnesium hydroxide solution $Mg(OH)_2$.
2. Concentrated sulphuric acid is added to table sugar.
   - The sugar becomes charred (burnt).
3. When the moving object returns to its starting point. (Regarding the displacement)
   - The displacement of a moving object equals zero.

2- A) Give a reason for:

1. Graphite is used in dry cells.
   - Because it is the only nonmetal that is a good conductor of electricity.
2. The colour of the flowers of Hydrangea plant differs according to the type of the soil.
   - Because the flowers turn blue when they are planted in acidic soil, while they turn red when planted in basic soil.

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Correct the underlined words:

1. Litmus strips measure the value of any solution directly and accurately. (pH meter)
2. Atomic groups are mixtures, most of them are not expressed in molecular formulas. (Alloys)
3. Potential energy of a body depends on height and size. (weight)

3- A) Write the name of the following ...:

1. HF: Hydrofluoric acid
2. NO: Nitric Oxide

B) Answer the following questions:

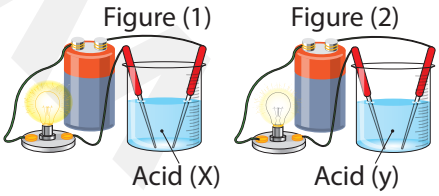
1. **Compare between:** Nickel chloride and sodium carbonate in terms of ...:

Points of comparison	Nickel chloride	Sodium carbonate
Molecular formula	$NiCl_2$	Na_2CO_3
Their colour	Green salt	White salt

2. **Look at the opposite figure, then answer:**

The opposite figures represent that electrical conductivity of sulphuric acid and acetic acid.

Identify the acid in each figure, with an explanation.



- Acid (X) acid in figure (1) is sulphuric acid because it is a strong acid and a good conductor of electricity.
- Acid (Y) acid in figure (2) is acetic acid because it is a weak acid and weak conductor of electricity.

3. Calculate the time taken by a moving object traveling at a speed of 80 km/h to cover a distance of 240 km.

- Speed (v) = 80 km/h
  Distance (d) = 240 km
- Time (t) = $\frac{\text{Distance (d)}}{\text{Speed (v)}}$

$t = \frac{240}{80} = 3$hours

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

1- A) Complete the following sentences:

1. Acidic soil can be treated by adding calcium hydroxide, whose molecular formula is $Ca(OH)_2$.
2. The applied force does not do work when the direction of effect is perpendicular to the direction of motion, or when the object remains at rest.

B) Give a reason for:

1. The pH meter device is more accurate than universal indicator strips in determining the pH value of a solution.
   - Because a pH meter device determines the pH value accurately, and displays the indicted number immediately on its digital screen, while universal indicator strips provide only an approximate pH value.
2. Some metals are recycled.
   - Metals are recycled for the following reasons:
   1. Their percentages in the Earth's crust decrease.
   2. The difficulty of extracting them form their ores.
   3. Recycling costs less than extracting them from their ores.
3. Hydrochloric acid is not an oxyacid.
   - Because it does not contain oxygen atoms.

2- A) Answer the following questions:

1. The energy stored in the body as a result of the work done (0.5 KJ).
   - It means that the potential energy of body is 0.5 KJ.
2. **Compare between ...:**

Magnesium hydroxide and sulphuric acid (in terms of the ions produced from the dissolution of each of them in water)

Point of comparison	Magnesium hydroxide	Sulphuric acid
The ions produced from the dissolution of each of them in water	Mg^{2+} cation and OH^- anions are formed	H^+ cations and SO_4^{2-} anion are formed

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

B) Write what each of the following sentences refer to:

1. Chemical substances whose color differ in acidic medium from that in alkaline medium. (Indicator)
2. An ion composed of more than one atom of more than one element. (Atomic group)
3. Rain resulting from the dissolution of acidic oxides in atmospheric water vapour. (Acid rains)

3- A) What happens ...?

1. To The speed of an object when the time required to cover a distance is doubled.
   - The speed decreases to half.
2. When Heating a piece of sulphur and adding the product to water, then placing (litmus paper) in the solution.
   - Burning sulphur forms sulphur trioxide, and sulphuric acid is formed when it is placed in water, which turns a blue litmus strip to red.

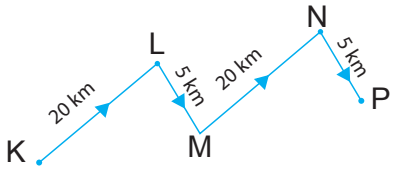
B) Answer the following questions:

1. **What is the meant by:** Work.
   - The amount of energy required to move an object through a certain displacement in the same direction of the force which acts on it.
2. **Write the correct molecular formula and the name of the salt formed from the following anions:**

   SO_4^{2-} , NH_4^+

   - The salt formed is ammonium sulphate, and its molecular formula is $(NH_4)_2SO_4$
3. A bicycle travelled from point (K) to point (P) in half an hour.

   Calculate the speed of a bicycle in m/s.



- Total distance = 20 + 5 + 20 + 5 = 50 km

  Distance in meters = 50 × 1000 = 50000 m

  Time in seconds = half an hour = 30 min = 30 × 60 = 1800 s

  Speed of the bicycle (v) = $\frac{d}{t} = \frac{50000}{1800} = 27.8$ m/s

D.M.RAZK موقع الدكتور محمد رزق معلم الكيمياء التعليمي

موقع الدكتور
محمد رزق
التعليمي

امسح الباركود بالموبيل لتثبيت
التطبيق وتحميل كل الملازم مجانا وبسرعه

MR

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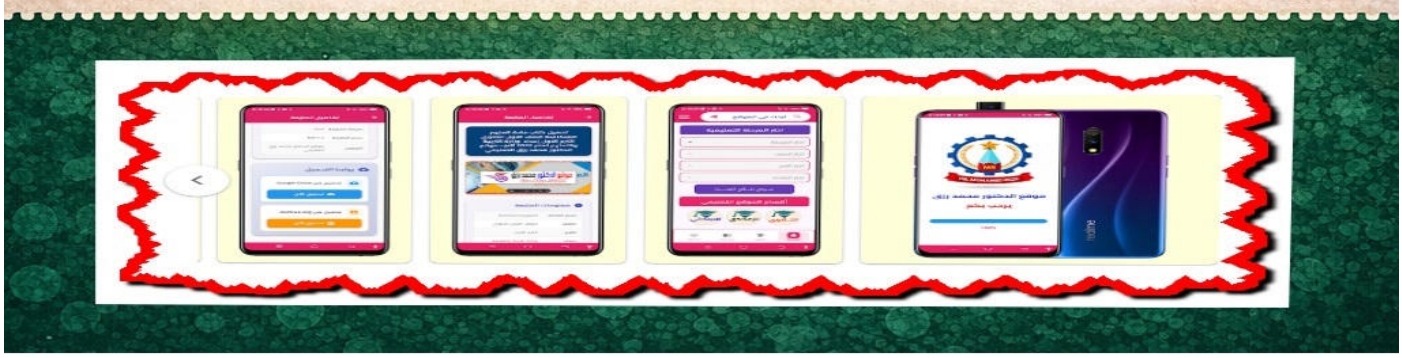

موقع الدكتور محمد رزق
Dr.MoRizK